

Grade 2 Teacher Section

Learning Connection Activity Suggestions:

These suggestions are organized around the same key math concepts addressed in the 24 activities. They relate to some of the Mathematical Process Expectations used in the Ontario Math Curriculum.

26

TEACHER SECTION

LEARNING CONNECTION ACTIVITY SUGGESTIONS

Mathematical Process Expectations:
Reflecting, Connecting and Communicating

- **Sort and classify various polygons by their geometric properties**
Have students fold a piece of paper in half. Then have them draw one polygon on one side of the fold and a different polygon on the other side.
Now have students draw polygons on each side that have the same number of vertices as the first two that they drew. Have students look at one side at a time and identify whether or not there are different shapes represented. Now have the students count the number of sides of each shape. "What do you notice about the number of vertices and the number of sides of the shapes you drew? Are you surprised? Why or why not?" Finally, have your students look at the polygons they drew on the other half and repeat the tasks they followed for the polygons on the first half. "What can we say that is true about all polygons?"
- **Compose patterns, pictures and designs using two-dimensional shapes**
Have students compose a symmetrical design using pattern blocks. Ask students to describe how their design is symmetrical.
Can they create the same pattern using a geoboard? Have students identify lines of symmetry using a different colour of elastic.

TEACHER SECTION

- **Compose and decompose shapes within other shapes**
Make an equilateral triangle template (each side 7.5 cm long) for your students with six triangles per page.
Photocopy enough so that students can have two pages if they need them. Using pattern blocks, how many different ways can your students cover the triangle?
- **Sort, classify, compose and decompose three-dimensional figures according to their geometric properties**
Using three-dimensional figures, have partners or small groups build a structure no more than 30 cm high and 50 cm wide. Each group must include figures that roll and slide in their structure. Give the groups a time limit for building.
Have each group identify each figure used and define it according to one of its geometric properties, e.g. number of straight sides, vertices, faces or surfaces. A T-chart could be used to summarize this information.
Next, ask groups to create a graph that describes the number and type of each figure used in the structure. Referring to its geometric properties, each group needs to explain why they used the figures they did for the base, top, etc. of their structure.

Challenge

How many different ways can your students find to cover the template using only two smaller pattern blocks? Make a graph that shows the decomposition of each way. For help with the graph, have your students review Activity 18 from this book.

Challenge

Give each group a chance to change their structure and make it better. Once changes are completed, provide time for groups to share with their classmates their thought process at the beginning of the task, and how their thoughts changed as they continued building.
As well, students need to describe why they made the changes they did and whether or not they improved their structures.